

### AMENDMENTS TO THE CLAIMS

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1. (Currently Amended) A method for extracorporeal oxygenation of a patient's blood during cardiopulmonary bypass surgery, the method comprising:
  - receiving venous blood from a patient into a venous line ~~means~~;
  - pumping venous blood through an air filter connected to said venous line ~~means~~ by ~~means of~~ applying a first vacuum, generated by a first pump ~~means~~, the air filter comprising an air chamber;
  - diverting air entering said air filter into said air chamber;
  - sensing bubbles in the venous blood;
  - applying a second vacuum to said air chamber, for drawing air from said air chamber, only when bubbles are sensed in the venous blood;
  - pumping blood exiting the air filter through the first pump ~~means~~ and through a blood ~~oxygenating means~~ oxygenator to oxygenate the blood; and
  - returning the blood oxygenated by said blood ~~oxygenating means~~ oxygenator to an arterial system of ~~said~~ the patient.
2. (Currently Amended) The method according to claim 1, further comprising delivering the air drawn from said air chamber to a cardiotomy reservoir.
3. (Currently Amended) The method according to claim 2, further comprising applying a third vacuum to said cardiotomy reservoir for drawing blood from said cardiotomy reservoir and for supplying the blood to the venous line ~~means~~.
4. (Currently Amended) The method according to claim 2 ~~or~~ 3, further comprising applying a fourth vacuum to said cardiotomy reservoir for drawing air from said cardiotomy reservoir.

5. (Currently Amended) The method according to ~~one of claims~~ claim 1, ~~2, 3 or 4~~ further comprising generating the second vacuum by a second pump ~~means~~ and actuating the said second pump ~~means~~ only when bubbles are sensed in the venous blood.

6. (Currently Amended) The method according to ~~one of claims~~ claim 1, ~~2, 3, 4 or 5~~, wherein venous blood is not collected in a venous reservoir.

7. (Currently Amended) Apparatus for extracorporeal oxygenation of a patient's blood during cardiopulmonary bypass surgery, the apparatus comprising:

- a venous line ~~means for receiving~~ constructed and arranged to receive venous blood from a patient;
- a bubble sensing means sensor, arranged at or connected to said venous line ~~means~~, ~~for detecting that is constructed and arranged to detect~~ bubbles in the venous blood received from ~~said the~~ patient;
- an air filter means, connected to ~~the said~~ venous line ~~means~~ and arranged downstream of said bubble ~~sensing means sensor~~, ~~for separating that is constructed and arranged to separate~~ air from blood, ~~the said~~ air filter ~~means comprising including~~ an air chamber ~~for receiving adapted to receive~~ air and ~~means for diverting a diverter constructed and arranged to divert~~ the air entering said air filter ~~means~~ into said air chamber;
- a blood oxygenating means for oxygenating oxygenator constructed and arranged to oxygenate blood-after passing through ~~the said~~ air filter ~~means~~;
- an arterial line means for returning constructed and arranged to return blood to the arterial system of ~~said the~~ patient after the blood has been oxygenated by ~~the said~~ blood ~~oxygenating means oxygenator~~;
- a first pump means, defining constructed and arranged to generate a first vacuum~~[[,]]~~ ~~for pumping to pump~~ blood through said venous line, said air filter ~~means~~, said ~~the~~ blood ~~oxygenating means oxygenator~~ and said arterial line ~~means~~; and
- a second pump means, defining constructed and arranged to generate a second vacuum~~[[,]]~~ to draw air from ~~the said~~ air chamber of said air filter ~~means~~ only when bubbles are detected in the venous blood by ~~the said~~ bubble ~~sensing means sensor~~.

8. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 7, wherein said second pump includes an outlet port of said second pump means that is connected to a cardiomy reservoir, said cardiomy reservoir being connected to said venous line ~~means~~ upstream of said bubble ~~sensing means~~ sensor.

9. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 7 ~~or 8, wherein further comprising a third pump means is provided for defining~~ constructed and arranged to generate a third vacuum which is to be applied to said cardiomy reservoir for drawing to draw blood from said cardiomy reservoir and for supplying to supply blood from the said cardiomy reservoir to the said venous line means.

10. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 7, 8 ~~or 9, wherein further comprising a fourth vacuum source constructed and arranged to generate a fourth vacuum that is to be applied to said cardiomy reservoir for drawing to draw air from said cardiomy reservoir.~~

11. (Currently Amended) ~~The method~~ apparatus according to ~~one of claims claim 7, 8, 9 or 10~~ wherein said bubble ~~sensing means are~~ sensor is connected to said second pump ~~means for actuating, said bubble sensor constructed and arranged to actuate said second pump means only when bubbles are sensed in the venous blood.~~